

...MARCH 2013 REGIONAL CLIMATE SUMMARY...

SUMMARY FOR THE SAN FRANCISCO BAY AREA AND MONTEREY BAY AREA...

...THIRD CONSECUTIVE DRY MONTH RESULTS IN RECORD DRY JANUARY-MARCH...

A PROLONGED PERIOD OF DRY WEATHER THAT BEGAN IN JANUARY AND THEN CONTINUED THROUGH FEBRUARY...ALSO PERSISTED THROUGH MARCH. THREE PRECIPITATION EVENTS DURING MARCH PRODUCED ONLY LIGHT AMOUNTS OF RAIN. PRECIPITATION FOR THE MONTH WAS WELL BELOW NORMAL. BECAUSE THIS WAS THE THIRD CONSECUTIVE DRY MONTH...MOST CLIMATE STATIONS EXPERIENCED THEIR DRIEST JANUARY-MARCH ON RECORD. AVERAGE TEMPERATURES FOR MARCH WERE SLIGHTLY WARMER THAN NORMAL.

THE MONTH GOT OFF TO A WARM START. HIGH TEMPERATURES ON FRIDAY THE 1ST WERE MOSTLY IN THE 70S AND LOWER 80S. ONLY LOCATIONS NEAR THE IMMEDIATE COAST REMAINED IN THE 60S. FIVE DAILY HIGH TEMPERATURE RECORDS WERE SET ACROSS THE REGION ON MARCH 1ST. STRONG HIGH PRESSURE ON THE 1ST COMPRESSED THE MARINE LAYER TO A SHALLOW LAYER AND RESULTED IN AREAS OF DENSE FOG NEAR THE OCEAN AND NEAR SAN FRANCISCO BAY THAT MORNING. THE VISIBILITY DROPPED TO NEAR ZERO AT THE SAN FRANCISCO AIRPORT...RESULTING IN 26 FLIGHT DIVERSIONS.

THE UPPER RIDGE RESPONSIBLE FOR THE RECORD WARMTH AT THE BEGINNING OF THE MONTH WEAKENED QUICKLY AND THEN AN UPPER LEVEL TROUGH GRADUALLY DEEPENED ALONG THE WEST COAST FROM THE 4TH THROUGH THE 8TH. THIS TROUGH RESULTED IN SEVERAL DAYS OF COOLER-THAN-NORMAL CONDITIONS AND ALSO PRODUCED PERIODS OF RAIN ACROSS OUR REGION. MOST RAIN FELL ON TUESDAY NIGHT...MARCH 5TH INTO THE 6TH...AND THEN AGAIN ON THURSDAY EVENING...MARCH 7. RAIN AMOUNTS WERE LIGHT IN MOST AREAS WITH LOCAL MODERATE AMOUNTS. AT LOWER ELEVATIONS...TOTAL PRECIPITATION FOR THIS RAIN EVENT WAS MOSTLY IN THE RANGE OF A QUARTER TO A HALF INCH. AS MUCH AS 1 TO 2 INCHES OF RAIN FELL IN THE COASTAL MOUNTAIN RANGES. RATHER COLD AIR ARRIVED NEAR THE END OF THE PRECIPITATION EVENT AND MOUNT HAMILTON PICKED UP A HALF INCH OF SNOW LATE ON THE 7TH.

A PERSISTENT RIDGE OF HIGH PRESSURE DURING THE SECOND FULL WEEK OF MARCH PRODUCED SEVERAL WARM DAYS FROM THE 10TH THROUGH THE 16TH. THIS WARM SPELL PEAKED IN WEDNESDAY THE 13TH WHEN INLAND TEMPERATURES RANGED MOSTLY FROM THE MID 70S TO MID 80S. THE SALINAS VALLEY TOWN OF KING CITY POSTED A HIGH OF 90 ON THE AFTERNOON OF THE 13TH. THE 13TH WAS THE WARMEST DAY OF THE MONTH ACROSS MUCH OF THE REGION. YET ONLY ONE DAILY HIGH TEMPERATURE RECORD WAS SET (83 AT SALINAS). NOT ALL AREAS WERE WARM ON THE 13TH. SIMILAR TO THE WARM DAY ON THE FIRST OF THE MONTH...A SHALLOW MARINE LAYER PERSISTED NEAR THE COAST ON THE 13TH AND KEPT TEMPERATURES FROM RISING OUT OF THE 50S AT SOME COASTAL SPOTS SUCH AS HALF MOON BAY. ALSO...THE SHALLOW MARINE LAYER RESULTED IN WIDESPREAD DENSE FOG ON THE MORNING OF THE 13TH.

A WEAK WEATHER SYSTEM PRODUCED LIGHT AMOUNTS OF RAINFALL FROM LATE ON THE 19TH THROUGH THE 20TH. RAINFALL AMOUNTS WERE MOSTLY A TENTH OF AN INCH OR LESS...EXCEPT LOCALLY UP TO A HALF INCH IN THE NORTH BAY.

AN UPPER LEVEL LOW DEVELOPED SEVERAL HUNDRED MILES TO THE WEST OF CALIFORNIA LATE IN THE MONTH AND GRADUALLY APPROACHED OUR AREA DURING THE FINAL FEW DAYS OF MARCH. SOUTHERLY FLOW IN ADVANCE OF THE UPPER LOW RESULTED IN A COUPLE OF RATHER WARM DAYS ACROSS OUR REGION ON THE 28TH AND 29TH. BY SATURDAY THE 30TH BANDS OF SHOWERS IN ADVANCE OF THE UPPER LOW BEGAN TO PUSH ONSHORE. SHOWERS BECAME NUMEROUS ACROSS THE AREA ON THE EVENING OF THE 30TH AND A LINE OF THUNDERSTORMS DEVELOPED OVER THE SOUTHERN DIABLO RANGE. THESE STORMS MOVED TO THE NORTH-NORTHWEST AND CONTINUED TO DEVELOP THROUGH THE EVENING...RESULTING IN NUMEROUS LIGHTNING STRIKES FROM JUST EAST OF HOLLISTER...EXTENDING NORTH-NORTHWEST TO JUST SOUTH OF LIVERMORE. AS THE UPPER LOW APPROACHED THE CALIFORNIA COAST ON SUNDAY THE 31ST...ANOTHER ROUND OF SCATTERED SHOWERS AND ISOLATED THUNDERSTORMS OCCURRED. THUNDERSTORM ACTIVITY WAS MOSTLY CONFINED TO THE NORTH BAY COUNTIES DURING THE AFTERNOON. ONE INTENSE ISOLATED STORM DEVELOPED IN THE NORTHEASTERN CORNER OF CONTRA COSTA COUNTY THAT AFTERNOON AND RADAR INDICATED THE POTENTIAL FOR HAIL UP TO AN INCH IN DIAMETER WITH THAT STORM. THIS PROMPTED ISSUANCE OF A SEVERE THUNDERSTORM WARNING FOR NORTHEASTERN CONTRA COSTA COUNTY FOR A SHORT TIME ON SUNDAY EVENING. BECAUSE PRECIPITATION ON THE FINAL TWO DAYS OF THE MONTH WAS SHOWERY IN NATURE...RAINFALL TOTALS VARIED FROM ONLY A FEW HUNDREDTHS ACROSS MUCH OF THE AREA TO NEARLY A HALF INCH IN A FEW COASTAL LOCATIONS SUCH AS SAN FRANCISCO...HALF MOON BAY AND SANTA CRUZ.

RAIN TOTALS FOR THE MONTH WERE ONLY A QUARTER TO A THIRD OF THE MARCH NORMAL IN MOST LOCATIONS...AND AS LITTLE AS 10 PERCENT OF NORMAL IN A FEW LOCATIONS. MARCH 2013 RANKED AS ONE OF THE TOP TEN DRIEST MARCHES ON RECORD AT SEVERAL CLIMATE STATIONS ACROSS THE REGION...INCLUDING:

LOCATION	MARCH 2013 RAINFALL	RANK	YEARS OF RECORD
SAINT HELENA	0.36	7TH DRIEST	101
OAKLAND	0.70	7TH DRIEST	41
PINNACLES NP	0.34	8TH DRIEST	77
OAKLAND AIRPORT	0.49	8TH DRIEST	49
KENTFIELD	0.84	8TH DRIEST	111
MT DIABLO JUNCTION	0.63	9TH DRIEST	61
OCCIDENTAL	2.86	9TH DRIEST	70
MARTINEZ	0.46	10TH DRIEST	85
SAN FRANCISCO AP	0.49	10TH DRIEST	68

TWO DOZEN CLIMATE STATIONS EXPERIENCED THEIR DRIEST JANUARY-MARCH ON RECORD INCLUDING DOWNTOWN SAN FRANCISCO WHICH HAS A CLIMATE RECORD THAT SPANS 164 YEARS. SOME RECORDS WERE BROKEN BY A CONSIDERABLE AMOUNT. FOR INSTANCE...KENTFIELD RECEIVED ONLY 2.25 INCHES OF RAIN FROM JANUARY 1 THROUGH MARCH 31 THIS YEAR...MAKING IT BY FAR THE DRIEST JANUARY-MARCH IN THE 111 YEARS OF WEATHER RECORDS AT KENTFIELD. THE PREVIOUS RECORD FOR DRIEST JANUARY-MARCH IN KENTFIELD WAS 8.22 INCHES IN 1984.

LOCATION	JAN-MAR TOTAL	PREVIOUS JAN-MAR RECORD/YEAR	YEARS OF RECORD
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MARTINEZ	1.29	2.98/1972	85
OAKLAND AIRPORT	1.30	2.60/1972	49
SAN FRANCISCO AP	1.36	2.62/1972	68
NEWARK	1.38	1.46/1972	70
REDWOOD CITY	1.51	2.45/1972	93
OAKLAND	1.58	3.08/1972	41
LOS GATOS	1.66	2.83/1972	119
SAINT HELENA	1.75	3.95/1976	101
WATSONVILLE	1.78	2.67/1988	99
PETALUMA	1.84	3.24/1976	97
MT DIABLO JUNCTION	1.88	3.29/1976	61
RICHMOND	1.95	3.23/1972	63
NAPA	2.02	2.58/1972	118
KENTFIELD	2.25	8.22/1984	111
SAN FRANCISCO	2.31	3.20/1851	164
BERKELEY	2.36	3.60/1976	111
HALF MOON BAY	2.43	2.79/1972	73
SANTA CRUZ	2.66	3.92/1972	120
MOUNT HAMILTON	2.84	3.41/1988	64
MUIR WOODS	3.48	5.40/1984	72
ANGWIN	3.86	5.03/1976	69
BEN LOMOND	4.19	6.26/1972	77
CLOVERDALE	4.78	4.79/1976	56
OCCIDENTAL	4.78	8.14/1955	70

IN ADDITION...THREE-MONTH RAIN TOTALS FOR JANUARY-MARCH AT SEVERAL OTHER CLIMATE STATIONS RANKED IN THE TOP TEN DRIEST. THOSE ARE LISTED BELOW:

LOCATION	JAN-MAR TOTAL	RANK	DRIEST JAN-MAR/ AMOUNT	YEARS OF RECORD
PINNACLES NP	1.66	2ND DRIEST	1972/0.99	77
LIVERMORE	1.87	2ND DRIEST	1972/1.83	110
SAN JOSE	1.93	2ND DRIEST	1972/1.61	119
MONTEREY	2.49	2ND DRIEST	1972/2.31	78
KING CITY	1.44	4TH DRIEST	1984/0.78	103
SALINAS	2.27	4TH DRIEST	1988/1.41	55
SALINAS AIRPORT	2.01	6TH DRIEST	2002/0.87	82

AS OF MARCH 31...YEAR-TO-DATE RAINFALL TOTALS (FOR THE RAIN YEAR WHICH BEGAN JULY 1ST 2012) WERE NOT NEARLY AS DISMAL AS MIGHT BE EXPECTED GIVEN THE THREE MOST RECENT DRY MONTHS. THE WET MONTHS OF NOVEMBER AND DECEMBER 2012 HELPED OFFSET...TO SOME EXTENT...THE MORE RECENT DRY PERIOD. AS OF MARCH 31ST YEAR-TO-DATE RAIN TOTALS ACROSS THE REGION GENERALLY RANGED FROM TWO-THIRDS TO THREE-QUARTERS OF NORMAL.

THE WARM SPELL DURING THE SECOND WEEK OF MARCH WAS ENOUGH TO PUSH AVERAGE TEMPERATURES FOR THE MONTH SLIGHTLY ABOVE NORMAL AT MOST CLIMATE STATIONS. AVERAGE HIGH TEMPERATURES WERE GENERALLY A FEW DEGREES WARMER THAN NORMAL. AVERAGE LOW TEMPERATURES WERE VERY CLOSE TO NORMAL AT MOST LOCATIONS. THE CLIMATE STATION WHOSE AVERAGE TEMPERATURES EXCEEDED NORMAL BY THE GREATEST AMOUNT WAS MOUNT HAMILTON. THIS LOCATION WAS WELL ABOVE THE SHALLOW MARINE

LAYER THAT EXISTED DURING THE MONTH'S WARM SPELLS.

...MARCH REGIONAL TEMPERATURE SUMMARY...

LOCATION	AVG HIGH	NORMAL HIGH	DEPARTURE FROM NORMAL	AVG LOW	NORMAL LOW	DEPARTURE FROM NORMAL
NORTH BAY...						
ANGWIN	63.7	60.7	3.0	42.5	40.8	1.7
CLOVERDALE	69.9	67.2	2.7	43.6	43.1	0.5
KENTFIELD	67.1	64.2	2.9	43.8	44.4	-0.6
NAPA	70.2	66.6	3.6	42.9	43.5	-0.6
NAPA AIRPORT	66.6	64.1	2.5	39.6	40.2	-0.6
OCCIDENTAL	63.2	61.7	1.5	42.8	44.6	-1.8
PETALUMA	65.9	65.1	0.8	40.7	42.3	-1.6
SAINT HELENA	69.9	66.5	3.4	43.7	42.8	0.9
SAN RAFAEL	66.2	62.9	3.3	44.5	45.3	-0.8
SONOMA COUNTY AP	67.2	64.1	3.1	39.8	41.5	-1.7
SAN FRANCISCO PENINSULA...						
HALF MOON BAY	58.2	59.9	-1.7	43.3	42.7	0.6
PALO ALTO	67.4	65.7	1.7	42.5	43.1	-0.6
REDWOOD CITY	67.9	64.9	3.0	45.0	44.7	0.3
SAN FRANCISCO AIRPORT	62.5	62.1	0.4	46.8	47.7	-0.9
SAN FRANCISCO DOWNTOWN	62.0	61.8	0.2	47.9	48.5	-0.6
EAST BAY...						
BERKELEY	65.7	54.2	1.5	44.6	45.7	-1.1
CONCORD	69.1	66.5	2.6	47.1	46.4	0.7
CONCORD AIRPORT	67.7	65.8	1.9	44.2	45.0	-0.8
FREMONT	67.0	65.3	1.7	45.6	46.3	-0.7
HAYWARD AIRPORT	65.3	63.7	1.6	46.5	47.4	-0.9
LIVERMORE	70.0	65.6	4.4	43.7	43.9	-0.2
LIVERMORE AP	68.8	64.6	4.2	43.1	42.4	0.7
MARTINEZ	68.2	66.3	1.9	42.3	40.7	1.6
MOUNT DIABLO JUNCTION	62.4	59.8	2.6	44.9	41.8	3.1
NEWARK	65.5	64.5	1.0	47.4	47.7	-0.3
OAKLAND	66.7	63.9	2.8	47.9	48.5	-0.6
OAKLAND AIRPORT	66.0	62.6	3.4	47.2	46.1	1.1
RICHMOND	65.2	63.9	1.3	46.1	47.5	-1.4
SOUTH BAY AND SANTA CRUZ COUNTY...						
GILROY	71.7	68.5	3.2	43.5	43.3	0.2
MOFFETT FIELD	66.6	65.0	1.6	47.8	47.3	0.5
MOUNT HAMILTON	56.0	50.4	5.6	42.9	38.6	4.3
SAN JOSE	67.0	65.7	1.3	46.4	46.6	-0.2
SANTA CRUZ	69.6	66.4	3.2	44.7	44.4	0.3
WATSONVILLE	67.2	64.4	2.8	44.0	43.9	0.1

WATSONVILLE AP	63.9	62.9	1.0	43.4	43.5	-0.1
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MONTEREY AND SAN BENITO COUNTIES...

CARMEL VALLEY	69.2	65.8	3.4	41.7	42.1	-0.4
HOLLISTER	69.4	66.1	3.3	43.4	42.4	1.0
KING CITY	74.4	70.2	4.2	42.4	42.1	0.3
MONTEREY	61.5	60.8	0.7	44.9	45.4	-0.5
MONTEREY AIRPORT	60.7	60.7	0.0	44.1	45.6	-1.5
PINNACLES NAT MON	71.8	66.6	5.2	38.7	37.6	1.1
SALINAS	67.1	65.1	2.0	43.3	43.3	0.0
SALINAS AIRPORT	67.0	64.7	2.3	44.6	44.7	-0.1

...MARCH REGIONAL PRECIPITATION SUMMARY...

LOCATION	MAR TOTAL	NORMAL MAR PRECIP	PERCENT OF NORMAL
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NORTH BAY...

ANGWIN	2.10	5.66	37
CLOVERDALE	3.02	6.16	49
KENTFIELD	0.84	6.56	13
MUIR WOODS	1.78	5.26	34
NAPA	0.93	3.87	24
NAPA AIRPORT	0.37	2.50	15
OCCIDENTAL	2.86	7.42	39
PETALUMA AIRPORT	0.80	3.79	21
SAINT HELENA	0.36	5.11	7
SAN RAFAEL	0.95	4.59	21

SAN FRANCISCO PENINSULA...

HALF MOON BAY	1.34	4.22	32
PALO ALTO	0.72	2.49	29
REDWOOD CITY	0.71	3.13	23
SAN FRANCISCO AIRPORT	0.49	2.96	17
SAN FRANCISCO DOWNTOWN	0.97	3.26	30

EAST BAY...

BERKELEY	1.14	3.86	30
CONCORD	0.56	2.53	12
CONCORD AIRPORT	0.68	2.37	29
FREMONT	0.31	2.92	11
HAYWARD AIRPORT	0.34	2.63	13
LIVERMORE	0.33	2.36	14
LIVERMORE AIRPORT	0.44	2.20	20
MARTINEZ	0.46	2.86	16
MOUNT DIABLO JUNCTION	0.63	3.52	18
NEWARK	0.69	2.34	29
OAKLAND	0.70	3.39	21

OAKLAND AIRPORT	0.49	3.08	16
RICHMOND	0.71	3.37	21

SOUTH BAY AND SANTA CRUZ COUNTY...

BEN LOMOND	2.43	7.16	34
LOS GATOS	0.75	3.63	21
MOFFETT FIELD	0.79	2.26	35
MOUNT HAMILTON	1.06	4.04	26
SAN JOSE	0.87	2.54	34
SANTA CRUZ	1.45	4.63	31
WATSONVILLE	0.53	3.63	15
WATSONVILLE AP	0.59	2.78	21

MONTEREY AND SAN BENITO COUNTIES...

CARMEL VALLEY	0.67	3.07	22
HOLLISTER	0.37	2.36	16
KING CITY	0.55	2.20	25
MONTEREY	0.98	3.38	29
MONTEREY AIRPORT	1.21	2.76	44
PINNACLES NP	0.34	3.11	11
SALINAS	0.72	2.74	26
SALINAS AIRPORT	0.41	2.26	18

...DAILY TEMPERATURE RECORDS FOR MARCH 2013...

		RECORD MAXIMUM TEMP	PREVIOUS RECORD
3/01	OAKLAND	74	70 IN 1994
3/01	MOFFETT FIELD	72	72 IN 1959
3/01	SANTA CRUZ	81	77 IN 1925
3/01	SALINAS	79	78 IN 1994
3/01	SALINAS AIRPORT	80	79 IN 1931
3/13	SALINAS	83	83 IN 1994

...MONTHLY RANKS FOR DOWNTOWN SAN FRANCISCO...

AVERAGE HIGH TEMPERATURE.....62.0.....47TH WARMEST OUT OF 139 YEARS
 AVERAGE LOW TEMPERATURE.....47.9.....58TH COOLEST OUT OF 139 YEARS
 PRECIPITATION..... 0.97 IN.....24ST DRIEST OUT OF 164 YEARS

...MONTHLY EXTREMES FOR SELECT LOCATIONS...

LOCATION	WARMEST DAY (S)	COOLEST DAY (S)	WETTEST DAY (S)
NAPA AIRPORT	3/13 79 DEG	3/053/09 32 DEG	3/31 0.19 IN
SAN FRANCISCO	3/13 3/29 73 DEG	3/05 3/09 3/21 45 DEG	3/31 0.49 IN
LIVERMORE AIRPORT	3/13 77 DEG	3/07 3/10 35 DEG	3/31 0.10 IN
SAN JOSE	3/29 78 DEG	3/10 39 DEG	3/07 0.50 IN
SALINAS AIRPORT	3/13 81 DEG	3/23 36 DEG	3/07 0.18 IN

NOTE: THIS CLIMATOLOGICAL DATA IS PRELIMINARY. FOR OFFICIAL
 CERTIFIED CLIMATOLOGICAL DATA PLEASE CONTACT THE NATIONAL
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